AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. (Currently Amended) A method for quantitative estimation of the reliability of a technical system, comprising the steps of:

specifying the types of fault with associated fault rates for the system components;

determining a probability distribution of a random variable characterizing the reliability for the overall system and for a prescribable time interval;

determining first fault rates by statistical random samples;

estimating second fault rates by subjective expert opinion and an upper and a lower estimate being specified ~~in~~ for each second fault rates ~~case~~;

calculating a first limiting probability distribution with the upper estimates and second limiting probability distribution with the lower estimates; and

using the first and second fault rates and the first limiting probability distribution and second limiting probability distribution to determine an upper and lower limit of the system reliability.

2. (Currently Amended) The method as claimed in claim 1, wherein

(a)   a mean, ~~in particular a most probable,~~ value is additionally estimated in each case for the second fault rates, and

(b)   a mean probability distribution is calculated with the mean values.

3. (Previously Presented) The method as claimed in Claim 1, wherein

(a)   random sample mean values are determined for first fault rates and distribution functions are assumed, and

(b)   a width or a widening of the associated distribution function is determined from the uncertainty of each random sample mean value.

4. (Currently Amended) The method as claimed in claim 3, wherein

a)   for each of said first fault rates type of fault, a Poisson distribution with a nominal expectation value equal to the random sample mean value is assumed,

b)   a minimum and a maximum expectation value are calculated from a required confidence level, and

c)   a widened Poisson distribution is calculated by weighted summing of the Poisson distributions with the nominal, minimum and maximum expectation values.

5. (Currently Amended) The method as claimed in claim 4, wherein

a)   a confidence level $1-\alpha$ and weighting facts $1-2\alpha$, α and α are selected for the Poisson distributions with the nominal, minimum and maximum expectation values, and

b)   in particular, $\alpha=0.1$ is set.

6. (Currently Amended) The method as claimed in claim 1, wherein account is taken of third types of fault whose third fault rates are taken into account and

known a priori or with high statistical reliability, and for which a Poisson distribution is assumed.

7. (Currently Amended) The method as claimed in claim ~~1~~ 6, wherein

a) ~~distribution~~ distribution functions of the first and third fault rates are convoluted, and the first and second limiting probability distributions and~~, if appropriate,~~ a mean probability distribution ~~(1)~~ are calculated by adding the upper, lower and ~~if~~ ~~appropriate, mean estimates~~ a mean estimate of the second fault rates~~, and~~

b) ~~in particular, other non-random variables relevant to the system~~ ~~reliability are determined for the time interval and added to the probability~~ ~~distributions~~.

8. (Currently Amended) The method as claimed in claim 1, wherein

a) ~~the~~ the random variable characterizing the reliability is a susceptibility to faults, a downtime, costs of standstill, repair and maintenance, or variables derived therefrom~~and~~

b) ~~in particular, the fault rates are failure rates~~.

9. (Currently Amended) The ~~application of the~~ method in accordance with claim ~~1~~ 6 in conjunction with FMEA tables, FMECA tables or tables derived ~~therefrom~~ from said FMEA tables or FMECA tables, wherein

a) said first, second and third fault rates are distinguished in the FMEA or FMECA tables, or the tables derived therefrom ~~(1)~~,

b)   random sample mean values and confidence intervals are specified for said first fault rates,

c)   upper, lower and, if appropriate, mean estimates are specified for said second fault rates, and

d)   expectation values are specified for said third fault rates.

10. (Currently Amended) The application of the method as claimed in claim 9, wherein

a)   Poisson distributions of the first and third types of fault are calculated and convoluted with one another, and

b)   the second fault rates are grouped into upper, lower and, if appropriate, mean fault rates and added separately in each case.

11.   (New) The method of claim 2, wherein the mean value is the most probable value.

12. (New) The method of claim 5, wherein $\alpha=0.1$ is set.

13. (New) The method of claim 7, wherein other non-random variables relevant to the system reliability are determined for the prescribable time interval and added to the first and second probability distributions.

14, (New) The method of claim 8, wherein the first and second fault rates are failure rates.